UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 2 8 2019

REPLY TO THE ATTENTION OF

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Barry Marietta, Manager – Air Quality Services
DTE Energy Company
One Energy Plaza
Detroit, MI 48226

Re: Administrative Order EPA-5-19-113(a)-MI-2

Dear Mr. Marietta:

Enclosed is an executed original of the Administrative Consent Order regarding the above captioned case. If you have any questions about the Order, please contact me at 312-886-6797.

Sincerely,

Sarah Marshall, Chief
Air Enforcement and Compliance Assurance Section (MI/WI)

Enclosure

cc: Amanda Urban/C-14J
Jenine Camillari, Michigan EGLE
Wilhemina McLemore, Michigan EGLE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

In the Matter of:	)	**EPA-5-19-113(a)-MI-2**
	)	
DTE Energy Company	)	**Proceeding Under Sections 113(a)(1)(3) and**
Trenton, Michigan	)	**114(a)(1) of the Clean Air Act, 42 U.S.C.**
	)	**§§ 7413(a)(1)(3) and 7414(a)(1)**
	)	

Administrative Consent Order

1. The Director of the Enforcement and Compliance Assurance Division, U.S. Environmental Protection Agency (EPA), Region 5, is issuing this Order to DTE Energy Company (DTE) under Sections 113(a)(1)(3) and 114(a)(1) of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(a)(1)(3) and 7414(a)(1).

Statutory and Regulatory Background

2. Under Section 112 of the CAA, EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired Electric Utility Steam Generating Units (NESHAP Subpart UUUUU) at 40 C.F.R. §§ 63.9980 through 63.10042.

3. The owner or operator of an existing affected facility was required to comply with the requirements of 40 C.F.R. §§ 63.9980 through 63.10042 by April 16, 2015. DTE received a one-year extension until April 16, 2016, under CAA Section 112(i)(3)(B), 42 U.S.C. § 7412(i)(3)(B) for compliance with this standard.

4. The NESHAP for Coal- and Oil-Fired Electric Utility Steam Generating Units applies to coal-fired electric utility steam generating units. 40 C.F.R. §§ 63.9981, 63.10042.

5. The NESHAP Subpart UUUUU, at 40 C.F.R. § 63.10000(b) provides that, at all times, owners and operators of affected equipment must operate and maintain any affected

source, including air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

6. The NESHAP Subpart UUUUU, at 40 C.F.R. § 63.9991(a)(1), referencing Table 2 to NESHAP Subpart UUUUU, states that an existing coal-fired unit that is not combusting low rank virgin coal must comply with a mercury (Hg) emission limit of 1.2 lb/TBtu.

7. Under Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violating the NESHAP regulations. The Administrator has delegated this authority to the Director of the Enforcement and Compliance Assurance Division.

8. The Administrator of EPA may require any person who owns or operates an emission source to make reports; install, use and maintain monitoring equipment; sample emissions; and provide information required by the Administrator under Section 114(a)(1) of the CAA, 42 U.S.C. § 7414(a)(1). The Administrator has delegated this authority to the Director of the Enforcement and Compliance Assurance Division.

Findings

9. DTE owns and operates a coal-fired electric utility steam generating unit identified as "EU-BOILER9A" (Unit 9) at the Trenton Channel Power Plant, 4695 Jefferson Avenue West, Trenton, Michigan. Mercury emissions from Unit 9 are continuously monitored with a sorbent trap monitoring system.

10. Unit 9 is an "affected source" as that term is defined in 40 C.F.R. § 63.9982.

11. In a letter to Michigan Department of Environment, Great Lakes, and Energy (Michigan EGLE) received on April 27, 2018, DTE notified Michigan EGLE of a deviation of

Unit 9 from the Hg emission limit identified in Paragraph 6, above, that occurred from March 3, 2018, through March 12, 2018. The duration of this deviation was 10 days.

12. DTE described the cause of the deviation identified in Paragraph 11 above, as a result of "insufficient activated carbon injection (ACI) into the flue gas caused by malfunctioning blowers in the ACI system."

13. On May 16, 2018, Michigan EGLE referred the matter to EPA, as Michigan has not been delegated the authority to enforce NESHAP Subpart UUUUU. 40 C.F.R. § 63.99.

14. By failing to operate and maintain the air pollution control system associated with Unit 9 with good air pollution control practices for minimizing emissions, DTE violated 40 C.F.R. § 63.10000(b) and Section 112(i)(3) of the CAA, 42 U.S.C. § 7412(i)(3).

15. By exceeding the Hg emission limit from March 3, 2018, through March 12, 2018, DTE violated 40 C.F.R. § 63.9991(a)(1) and Section 112(i)(3) of the CAA, 42 U.S.C. § 7412(h)(4)(i)(3).

16. On September 12, 2018, EPA issued to DTE a Finding of Violation alleging that it violated the NESHAP Subpart UUUUU by failing to operate and maintain the air pollution control system in accordance with good air pollution control practices for minimizing emissions and by exceeding the Hg emission limit at the Trenton Channel Power Plant.

17. On October 25, 2018, representatives of DTE and EPA discussed the September 12, 2018 Finding of Violation.

Compliance Program

18. By the effective date of this Order, DTE must achieve, demonstrate and maintain compliance with the NESHAP Subpart UUUUU at the Trenton Channel Power Plant.

19. By the effective date of this Order, DTE must implement the Elevated Mercury Emissions Response Plan, included as Attachment A to this Order, at the Trenton Channel Power Plant and maintain records documenting the implementation.

20. By 60 days from the effective date of this Order, DTE shall submit to Michigan EGLE a complete application, amendment, and/or supplement to incorporate as "applicable requirements" the requirements of the Elevated Mercury Emissions Response Plan (Attachment A) into a non-Title V, federally-enforceable Permit-to-Install requirement that will survive termination of this Order. Concurrently with submission to Michigan EGLE, DTE shall submit a copy of the permit application to EPA.

21. For each of the two six-month periods following the effective date of this Order, DTE must submit a report pursuant to Section 114(a) of the CAA documenting the implementation of the Elevated Mercury Emissions Response Plan at the Trenton Channel Power Plant. The reports must be submitted no later than January 31, 2020, and July 31, 2020. The reports shall include:

a. All mercury emissions data collected during the reporting period;

b. Each event during the reporting period considered to be an "Elevated Emissions Case," as that term is defined in the Elevated Mercury Emissions Response Plan, the date, time and duration of the event, and a description of why the event occurred;

c. A narrative description of all action(s) taken by DTE in response to the "Elevated Emissions Case";

d. The date and time at which the event was considered to be resolved, and on what basis; and

e. Where applicable, an explanation for why the Elevated Mercury Emissions Response Plan was not implemented as written.

22. DTE must send all reports required by this Order to:

Attention: Compliance Tracker (ECA-18J)
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

General Provisions

23. This Order does not affect DTE's responsibility to comply with other federal, state, and local laws.

24. This Order does not restrict EPA's authority to enforce the CAA and its implementing regulations.

25. Failure to comply with this Order may subject DTE to penalties of up to $99,681 per day for each violation under Section 113 of the CAA, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.

26. The terms of this Order are binding on DTE, its assignees and successors. DTE must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously verify to EPA, at the above address, that it has given the notice.

27. EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

28. DTE agrees to the terms of this Order. DTE waives any remedies, claims for relief, and otherwise available rights to judicial or administrative review that it may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b) of the CAA, 42 U.S.C. § 7607(b).

29. This Order is effective on the date of signature by the Director of the Enforcement and Compliance Assurance Division. This Order will terminate thirteen months from the effective date, provided that DTE has complied with all terms of the Order throughout its duration.

DTE Energy Company

6/19/19

Date

Michael F. Dunlap II
Plant Manager, Trenton Channel Power Plant
DTE Energy Company

United States Environmental Protection Agency

6/28/2019
Date

Michael D. Harris
Michael D. Harris
Acting Division Director
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, Region 5

DTE Energy
Administrative Compliance Order
EPA-5-19-113(a)-MI-02

Attachment A

Trenton Channel Power Plant
Elevated Mercury Emissions Response Plan

Plant Equipment and Data Collection

Trenton Channel Power Plant (the "plant") is required to control mercury emissions to comply with the mercury emission limit set forth by the Mercury and Air Toxics Standards (MATS). This plan outlines the mercury control process at the plant as well as actions to be taken in the event of elevated mercury emissions. The purpose of this plan is to (1) prevent exceedance of the mercury emissions limit, and (2) in the event of elevated mercury emissions, return to baseline mercury emission rates as quickly as possible.

The plant is a "dry" stack plant meaning that there is no "wet" scrubber for controlling mercury emissions. Mercury emissions at the plant are controlled through activated carbon injection (ACI). In the ACI process, powdered activated carbon (PAC) is injected into the flue gas. The PAC has been treated with halogen which promotes mercury oxidation. Oxidized mercury is then adsorbed by the PAC and removed from the flue gas stream in the plant's electrostatic precipitators (ESPs). The PAC and adsorbed mercury is removed with the other ash material collected by the ESPs. The ACI system includes storage silos and other equipment to transport the PAC from the silos to the injection point where it is injected by several lances into the plant's ducts. In addition, the plant also has the capability to inject calcium bromide on the coal during periods of elevated mercury emissions or times where fuel blends may increase mercury in the fuel.

Mercury emissions are monitored by two systems at the plant. For MATS-required mercury monitoring and reporting, the plant uses a sorbent trap system (STS). The STS uses sorbent tubes which contain activated carbon and a known amount of mercury to monitor mercury emissions from the unit. The STS collects a representative amount of flue gas from the unit emissions as required by MATS. Approximately once per week the two sorbent traps are removed from the STS and sent for laboratory analysis. Data from the laboratory analysis is entered in the plant's data acquisition and handling system (DAHS). The DAHS is programmed to calculate mercury emissions using the lab data, operating data, and MATS guidelines. This data is used for regulatory reporting under MATS. A mercury process monitor is also used at the plant. The process monitor is a continuous mercury emission monitor and is used to manage the ACI system. The process monitor cannot be certified to the requirements set forth in MATS.

The ACI system three operational modes:

- Auto Mode – The operator enters a carbon flow set-point and the system will constantly adjust the feeder demand to achieve that selected carbon flow rate set point. This is used much of the time at the plant and gives operations more control over controlling emissions especially in cases such as elevated emissions or equipment malfunctions.
- Manual Mode – This mode maintains a constant demand to the carbon feeder. Although this may provide stable carbon flow rates depending on operation, carbon flow rate can be influenced by the performance of other components in the system. Manual mode does not adjust the feeder demand automatically to achieve a selectable or stable flow rate. Flow rates are dependent on components within the system including eductor pressure, rotary filler valve performance, and feeder performance.
- Auto/Cascade Mode – Operation of the system is programmed to inject carbon that is based on the mercury process monitor emission rate. This real-time emission rate is compared to a fixed mercury emission rate set point and will correct carbon flow to maintain that set point.

Elevated Mercury Emissions

There are two ways Trenton Channel Power Plant can identify elevated mercury emissions as described:

1. STS-data – This occurs when lab analysis of the traps from the STS shows elevated mercury emissions. This level of elevated emissions does not necessarily cause an emissions exceedance as the traps monitor shorter-term emissions than the MATS 30-day average emission limit, but certain response actions are taken based on data at this level.
2. Process monitor-identified elevated mercury emissions – Elevated emissions identified by the process monitor can signal the plant to take action prior to having the certified emissions data from the STS. Short-term elevated emissions or "spiking" based on process monitor data is not uncommon during routine operation and do not require countermeasures. However, repeated and/or higher-level spiking of emissions and longer-term emissions above expected based on ACI, will trigger response actions.

Additional investigation shall be done in the following Elevated Emissions Cases:

- Mercury emissions greater than 1.1 lb/Tbtu based on STS data; emissions rate shall be determined based on monitor data following laboratory analysis and entry into DAHS
- Process monitor daily average exceeds 1.3 lb/Tbtu; a daily average shall be determined as the average emission rate at the end of each calendar day

Each of these instances of Elevated Emissions Cases triggers investigation into the issue. The following actions shall be taken, as expeditiously as possible:

- Contact the plant operations shift supervisor, plant instrument and control (I&C) specialist, plant environmental representative, and plant management and inform them of the incident(s) within one business day

- Review data for accuracy and comparison with other data and information to determine if there are actual elevated emissions requiring further action
- Assess instrumentation and equipment to ensure proper monitoring, operation and communication
- Troubleshoot system equipment and monitors as appropriate
- If actual elevated emissions are suspected based on investigation, increase frequency of removing traps from the STS to get certified data more quickly

If, after the initial investigation, Elevated Emissions persist, the issue should be escalated for other action. The plant has options available to increase mercury capture and reduce emissions; plant personnel will work to return the mercury emission rate to the baseline emission rate as quickly as possible. The following actions shall be taken if elevated emissions cannot be addressed by the routine steps listed above. Although many actions are available to the plant, not all actions need to be taken should initial or subsequent actions lower emissions to acceptable levels. Actions that can be taken include:

- Change fuel type to higher western coal blend
- Increase feed rate of ACI
- Reduce load
- Add and/or increase calcium bromide application
- Cease operation of unit

CERTIFICATE OF MAILING

I certify that I sent the Administrative Consent Order, EPA-5-19-113(a)-MI-2, by certified mail, return receipt requested, to:

Barry Marietta
DTE Energy Company
One Energy Plaza
Detroit, MI 48226

I also certify that I sent a copy of the Administrative Consent Order, EPA-5-19-113(a)-MI-2, by E- mail to:

Andrea Hayden
andrea.hayden@dteenergy.com

Jenine Camilleri
CamilleriJ@michigan.gov

Wilhemina McLemore
mclemorew@michigan.gov

On the 28th day of June 2019.

Kathy Jones
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7018183000005414626 4